AMENDMENTS TO THE CLAIMS

1. (Previously Presented)   A system for determining an optimal transmission rate for passing a cell stream from a first location to a second location at a desired transmission rate, the system comprising:

a first unit at the first location coupled to one end of each of a plurality of low capacity data links for assisting in determining characteristics of each of the links using a test signal transmitted over each of the links;

a second unit at the second location coupled to the other end of each of the links for assisting in determining the characteristics of each of the links based on the characteristic of the test signal received at the second unit; and

a processor coupled to the second unit for determining the optimal transmission rate based on the characteristics of the links and the number of links needed to provide the desired transmission rate by:

determining a maximum transmission rate for each of the links to create a list of available links and associated maximum transmission rates;

selecting the link with the lowest rate and setting all available links to transmit at the same rate to determine a total available rate;

finding the next lowest rate from the available rates and setting all other links to transmit at the next lowest rate to determine another total available rate;

repeating the finding step to create a list of maximum transmission rates and corresponding total available rates; and

choosing a rate from the maximum transmission rates that corresponds to one of the available links, and thus, one total available rate from the total available rates that is at least equal to or greater than the desired transmission rate to produce the optimal transmission rate.

2. (Original) The system of claim 1, wherein the characteristics of each of the links includes the maximum transmission rate for each of the links.

3. (Original) The system of claim 1, wherein a total available transmission rate is at least equal to the desired transmission rate.

4. (Original) The system of claim 3, wherein the total available transmission rate is the sum of the transmission rate of each of the links.

5. (Original) The system of claim 1, wherein the first unit receives a data stream and inverse multiplexes the data stream over at least two trained links selected from the links.

6. (Previously Presented)   The system of claim 5, wherein the second unit receives and multiplexes the inverse multiplexed data stream from each of the links to produce the data stream.

7. (Original) The system of claim 6, further comprising at least one data link selected from the links that is trained and set to idle status, wherein the first unit and the second unit switch to use the idle link to replace any one of the links that has failed and wherein the status of the idle link is changed to active.

8. (Original) The system of claim 7, wherein the failed link is trained at the optimal transmission rate and set to idle status.

9. (Amended)   A system for determining an optimal transmission rate for passing a cell stream from a first location to a second location at a desired transmission rate, the system comprising:

a first unit at the first location coupled to one end of each of a plurality of low capacity data links for assisting in determining characteristics of each of the links using a test signal transmitted over each of the links;

a second unit at the second location coupled to the other end of each of the links for assisting in determining the characteristics of each of the links based on the characteristic of the test signal received at the second unit; and

a processor coupled to the second unit for determining the optimal transmission rate based on the characteristics of the links and the number of links needed to provide the desired transmission rate;

wherein the first unit receives an ATM cell stream and inverse multiplexes the cell stream over the links that are trained at the optimal rate and wherein the second unit receives and multiplexes the inverse multiplexed cell stream from each of the active trained data links to produce the cell stream and wherein at least one link is trained <u>at the optimal rate</u> and set to idle status.

10. (Original) The system of claim 9, wherein the first unit and the second unit switch to use the idle link to replace a failed link and wherein the status of the idle data link is changed to active.

11. (Original) The system of claim 10, wherein the failed link is retrained at the optimal rate and is set to idle status.

12. (Original) A method for determining an. optimal rate for transmitting a cell stream at a desired transmission rate from a first location to a second location over a plurality of low capacity links, the method comprising:

determining characteristics and a maximum rate for each of the links to create a list of available links and associated transmission rates;

selecting the link with the lowest rate and setting all available links to transmit at the same rate to determine a total available rate;

comparing the total rate based on the lowest rate and the number of available links to the desired rate;

finding the next lowest rate from the available rates and setting all other links to transmit at the next lowest rate to determine another total available rate;

repeating the finding step until all available rates have been considered to create a list of maximum rates and corresponding total available rates; and

choosing a rate from the maximum rates that corresponds to one of the available links, and thus, one total available rate from the total available rates that is at least equal to or greater than the desired rate to produce the optimal rate.

13. (Previously Presented)   The system of claim 9, wherein the characteristics of each of the links includes the maximum transmission rate for each of the links.

14. (Previously Presented)   The system of claim 9, wherein a total available transmission rate is at least equal to the desired transmission rate.

15. (Previously Presented)   The system of claim 14, wherein the total available transmission rate is the sum of the transmission rate of each of the links.

16. (Previously Presented)   The method of claim 12, further comprising training at least one of the available links to be an idle link and setting status of the idle link to idle.

17. (Previously Presented)   The method of claim 16, further comprising replacing a failed link with the replacement link, wherein the status of the idle link is changed to active.

18. (Previously Presented)   The method of claim 17, further comprising
retraining the failed link at the optimal rate and setting the status of the failed link to active.